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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,875	03/31/2004	Yu-Pin Chou	3722-0186PUS1	4577

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EXAMINER	
NGUYEN, HAI L	

ART UNIT	PAPER NUMBER
2816	

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/812,875	CHOU ET AL.	
	Examiner	Art Unit	
	Hai L. Nguyen	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 September 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10,12 and 13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,6,8,10,12 and 13* is/are rejected.

7)☒ Claim(s) *4 and 7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment received on 9/06/2005 has been reviewed and considered with the following results:

As to the objection to claim 5, Applicant's amendments have overcome the objection, as such; the objection has been withdrawn.

The prior art rejections to the claims made in the previous Office Action mailed 6/03/2005 are now withdrawn in view of Applicant's amendments, the amendments have been considered but are moot in view of a new action on the merits appears below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5, 6, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsinker (US 6,323,692; previously cited).

With regard to claims 1 and 2, Tsinker discloses in Figs. 1-10 a phase frequency detector (28 in Fig. 4) comprising a phase error detecting unit (150, 152) for outputting at least a phase error signal (UP, DOWN) according to a phase error between a first input signal (REF. CLOCK) and a second input signal (FILTER CLOCK); and a reset unit (154-158) coupled to the phase error detecting unit for receiving the first input signal and the second input signal, and for

outputting a reset signal (RST) according to the first input signal and the second input signal, in order to reset the phase error detecting unit, wherein the length of the phase error signal has a substantial linear relationship with the phase error of the first input signal and the second input signal; wherein the phase error detecting unit is reset by the reset signal responsive to an edge of the first input signal and remains reset for a significant period of time despite of the level of the first input signal after the edge (see Figs. 7a-7e).

With regard to claim 3, the phase error detecting unit comprises a first flip-flop (150) for outputting a first flag signal (UP) according to the first input signal (REF. CLOCK); and a second flip-flop (152) for outputting a second flag signal (DOWN) according to the second input signal (FILTER CLOCK).

With regard to claim 5, the reference also meets the recited limitations in the claim.

With regard to claim 6, the reset signal comprises a first reset signal (signal inputted at RN terminal of 150) for resetting the first flip-flop; and a second reset signal (signal inputted at RN terminal of 152) for resetting the second flip-flop.

With regard to claim 10, Tsinker discloses in Figs. 1-9e a phase locked loop (10) comprising a phase error detector (28) for receiving a first input signal (REF. CLOCK) and a second input signal (FILTER CLOCK) and outputting a phase error signal (30, 34); and a clock signal generator (32, 36, 22, 24) for outputting the second input signal according to the phase error signal; wherein the phase error detector comprises a phase error detecting unit (150, 152 in Fig. 4) for outputting the phase error signal according to a phase error between the first input signal and the second input signal; and a reset unit (154 - 158) coupled to the phase error detecting unit for receiving the first input signal and the second input signal, and for outputting a

reset signal (RST) according to the first input signal and the second input signal, in order to reset the phase error detecting unit; wherein the length of the phase error signal has a substantial linear relationship with the phase error of the first input signal and the second input signal (see Figs. 7a-7e).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsinker in view of Momtaz et al. (US 5,950,115).

The above-discussed circuit of Tsinker meets all of the claimed limitations except for buffer circuit (420 in instant Fig. 7) for buffering the first input signal and the second input signal. Momtaz et al. teaches a similar phase error detecting unit comprising a buffer circuit (90, 92) for buffering the first and second input signals. It would have been obvious to one of ordinary skill in the art at the time of invention to implement the buffer circuit taught by Momtaz et al. in Tsinker's invention circuit in order to isolate the phase error detecting unit from other elements of the circuit.

6. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsinker in view of the admitted prior art, Figs. 1A & 1B in the present application.

The above-discussed circuit of Tsinker meets all of the claimed limitations except that the phase error detector is implemented in the phase locked loop having a different type of clock signal generator from the clock signal generator recited in these claims. The admitted prior art teaches a phase locked loop having a clock signal generator as recited in these claims. Therefore, it would have been obvious to one of ordinary skill in the art that **the** phase error detector of Tsinker can be implemented in the phase locked loop accordance with the principle teaching of the prior art, Figs. 1A & 1B in the present application, in order to meet the specific condition of the particular application.

Allowable Subject Matter

7. Claims 4 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose or fairly suggest a phase error detector (as shown in Fig. 7), as recited in claim 4, having specific structural limitations such as phase error detecting unit (400) further comprises a sampling circuit (403) for outputting the phase error signal (UP, DOWN) according to the first flag signal (FLAG_1) and the second flag signal (FLAG_2); and being configured in combination with the rest of the limitations of the base claims and any intervening claims.

The prior art of record fails to disclose or fairly suggest a phase error detector (as shown in Fig. 7), as recited in claim 7, having specific structural limitations such as the reset unit (410) comprises a third flip-flop (411) for outputting the second reset signal (FLAG_3) according to

the first input signal (Fr); and a fourth flip-flop (412) for outputting the first reset signal (FLAG_4) according to the second input signal; and being configured in combination with the rest of the limitations of the base claims and any intervening claims.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 571-272-1747. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HLN
November 25, 2005

Kenneth B. Wells
Primary Examiner